

REMARKS

The present amendment is submitted in response to the Office Action mailed February 23, 2005. Claims 1-14 are currently pending in the application. By this amendment, Claims 1-10 and 12-14 have been amended. No new matter or issues are believed to be introduced by this amendment. In view of the amendments above and the remarks to follow, reconsideration and allowance of this application are respectfully requested. Accordingly, early and favorable consideration of this application is respectfully requested.

Specification Objections

In the Office Action, the Specification was objected to for failing to include section headings. Applicants respectfully decline to add headings as they are not required in accordance with MPEP §608.01(a).

35 U.S.C. §102(e)

Claims 1, 3-9 and 11-14 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,095,535 (hereinafter Freeburg).

Applicant appreciates the courtesy granted to Applicant's attorney, Michael A. Scaturro (Reg. No. 51,356), during a telephonic interview conducted on April 25, 2005.

During the telephonic interview, Applicant's attorney presented grounds for maintaining that the invention is patentably distinguishable from the cited reference (Freeburg). Specifically, Applicant's Attorney pointed out to the Examiner that the invention overcomes a

problem with known diversity systems that do not take into account the fact that the various paths between transmitter and receiver differ in their impulse responses, resulting in differences in signal-to-noise ratio (SNR) and time delay. In a system in accordance with the invention, a data stream is mapped to the different transmit antennas according to the differing requirements of the individual portions of data.

Data which requires a high Quality of Service (QoS) in terms of error rate, or simply requires the highest available bit rate, may be mapped to the transmit antennas 110 in such a way as to make use of one or more paths 112 in the radio channel offering the best SNR (or which require the lowest transmit power for the required SNR). Data requiring a lower QoS in terms of error rate may be mapped to a path or paths 112 in the radio channel offering a lower value of SNR.

Independent Claim 1 has been amended to better define Applicant's invention and to overcome the cited rejection.

Claim 1 now recites:

A radio communication system having a communication channel comprising a plurality of paths between a transmitter having a plurality of antennas and a receiver having at least one antenna, wherein the transmitter comprises:

path characterisation means for determining at least one transmission property of each path of said plurality of paths,

data categorisation means for determining and assigning a data quality category to a set of data for transmission, and

mapping means responsive to said data path characterisation means and said data categorisation means for determining a mapping to apply the set of data to the transmitter's plurality of antennas such that the set of data is transmitted over a path or paths in which the determined data quality of the set of data corresponds to the at least one transmission property of the path or paths, thereby determining over which path or paths the set of data will be transmitted.

Support for the amendments can be found throughout Applicant's specification and in the figures. Claims 3 and 13 have been amended to include similar limitations added to Claim 1.

Freeburg is directed to a communication system for relatively high data bit rate RF communication which overcomes multipath interference by employing two techniques, relatively narrow beam antenna sectors and the best communication path established between two terminals. The system described makes a quality measurement of each path. Each quality measurement is ranked where the highest quality is 50 and the lowest quality is 1. The system utilizes the highest quality path to transmit the data to overcome reception errors caused by multipath interference.

Freeburg does not disclose or suggest data categorisation means for determining and assigning a data quality category to a set of data for transmission, as recited by Applicant's Claims 1, 3 and 13. Neither does Freeburg disclose or suggest mapping means responsive to said data path characterisation means and said data categorisation means for determining a mapping to apply the set of data to the transmitter's plurality of antennas such that the set of data is transmitted over a path or paths in which the determined data quality of the set of data corresponds to the at least one transmission property of the path or paths, thereby determining over which path or paths the set of data will be transmitted, as recited by Applicant's Claims 1, 3 and 13. Accordingly, withdrawal of the rejection with respect to Claims 1, 3 and 13 and allowance thereof is respectfully requested.

Claims 2, 4-12 and 14 depend from Claims 1, 3 and 13, respectively, and therefore includes the limitations of Claim 1. Hence, for the same reasons given above for Claims 2, 4-12 and 14 are believed to contain patentable subject matter. Accordingly, withdrawal of the rejection with respect to Claims 2, 4-12 and 14 and allowance thereof are respectfully requested.

35 U.S.C. §103(a)

Claims 2 and 10 were rejected under 35 U.S.C. §103(a) as being unpatentable over Freeburg view of U.S. Patent No. 6,665,870 (Papasakellariou).

Claims 2 and 10 depend from Claims 1 and 3, respectively, and therefore includes the limitations of Claims 1 and 3. Hence, for the same reasons given above for Claims 1 and 3, Claims 2 and 10 are believed to contain patentable subject matter. Accordingly, withdrawal of the rejection with respect to Claims 2 and 10 and allowance thereof are respectfully requested.

Conclusion

If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call Dicron Halajian, Esq., Intellectual Property Counsel, Philips Electronics North America, at 914-333-9607

Respectfully submitted,



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